

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for indicating that claims 4-10 and 17-20 contain allowable subject matter.

Disposition of Claims

Claims 1-2, 4-10, and 12-20 are pending in this application. By way of this reply, independent claim 1 has been amended to clarify that perfluorobenzene is not included in the monomer composition. Support for these amendments can be found, for example, in paragraph [0020] of the specification. No new matter has been added by the amendments. Claim 1 is independent. The remaining claims depend, either directly or indirectly, from independent claim 1.

Rejection(s) under 35 U.S.C. § 103**Claims 1 and 13**

Claims 1 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2001/0037028 ("Moore") in view of U.S. Patent No. 3,868,408 ("Holland"). As noted above, claim 1 has been amended. To the extent this rejection still applies to the amended claim, the rejection is respectfully traversed.

One or more embodiments disclosed in this application are directed to optical plastic components that can be used in optical fiber communication devices. Specifically, the present application discloses crosslinkable polymers made from a characteristic composition of monomers, thereby providing plastic optical components having better processabilities. Monomers in accordance with one embodiment of the present disclosure include a

perfluorocyclohexane ring, while perfluorobenzene is excluded therefrom. Advantageously, given this composition, users can avoid Rayleigh scattering and light loss that may be caused by pi-bonds in perfluorobenzene.

Accordingly, amended independent claim 1 requires, in part, a crosslinkable fluorine-containing monomer composition containing a perfluorocyclohexane ring with *perfluorobenzene excluded* and one or more radical polymerization groups by radical polymerization.

Moore relates to acrylates in which a large percentage of hydrogen atoms have been replaced by halogens. Moore, in contrast to the claimed invention, suggests using bromopentafluorobenzene (*see* Example 7) and 1,3,5-trichloro-2,4,6-trifluorobenzene (*see* Example 8) as reactants. That is, Moore does not teach or show excluding the use of perfluorobenzene, thereby reducing light loss in an optical communication device. Therefore, Moore fails to show or suggest at least a crosslinkable fluorine-containing monomer composition containing a perfluorocyclohexane ring with *perfluorobenzene excluded* and one or more radical polymerization groups by radical polymerization, as required by amended independent claim 1.

In addition, Holland does not teach that which Moore lacks with respect to claim 1. Specifically, Holland is only relied upon for teaching a monosubstituted or disubstituted monomer perfluorocyclohexane ring (*see* page 4 of the instant Office Action). However, like Moore, Holland is silent with respect to at least a crosslinkable fluorine-containing monomer composition containing a perfluorocyclohexane ring with *perfluorobenzene excluded* and one or more radical polymerization groups by radical polymerization, as required by amended independent claim 1.

In view of the above, Moore and Holland, whether considered separately or in combination, fail to show or suggest all limitations of amended independent claim 1. Independent claim 1 is patentable over Moore and Holland for at least the reasons discussed above. Dependent claims are also patentable over Moore and Holland for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 12 and 14

Claims 12 and 14 stand rejected under 35 U.S.C. § 103(a) as being obvious over Moore in view of U.S. Patent No. 6,747,179 ("DeSimone"). For the reasons set forth below, the rejection is respectfully traversed.

As discussed above, Moore fails to teach or suggest all limitations of independent claim 1. Further, DeSimone does not teach that which Moore lacks with respect to claim 1. Specifically, DeSimone only relied upon for teaching a functionalized alkane thiol (*see* page 5 of the instant Office Action). However, like Moore, DeSimone is silent with respect to at least a crosslinkable fluorine-containing monomer composition containing a perfluorocyclohexane ring with *perfluorobenzene excluded* and one or more radical polymerization groups by radical polymerization, as required by amended independent claim 1.

In view of the above, claims 12 and 14, which depend from independent claim 1, are patentable over Moore and DeSimone, whether considered separately or in combination. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 15-16

Claims 15-16 stand rejected under 35 U.S.C. § 103(a) as being obvious over Moore in view of U.S. Patent Application Publication No. 2003/0026574 ("Suzuki"). For the reasons set forth below, the rejection is respectfully traversed.

As discussed above, Moore fails to teach or suggest all limitations of independent claim 1. Further, Suzuki does not teach that which Moore lacks with respect to claim 1. Specifically, Suzuki only relied upon for teaching an optical waveguide (see page 6 of the instant Office Action). However, like Moore, Suzuki is silent with respect to at least a crosslinkable fluorine-containing monomer composition containing a perfluorocyclohexane ring with *perfluorobenzene excluded* and one or more radical polymerization groups by radical polymerization, as required by amended independent claim 1. In view of the above, claims 15 and 16 which depend from independent claim 1, are patentable over Moore and Suzuki, whether considered separately or in combination. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 04473/005001).

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Respectfully submitted,

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Attachments